The priority claim was already set forth in the cover sheet that accompanied the patent application, the cover sheet of the PCT application that was submitted with the application as filed, and the copy of the declaration that was submitted with the application as filed.

Claim 3 has been amended to correct its dependency.

If any matters remain to be discussed prior to examination, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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Marked-up Version of Amended Specification, Abstract, and Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)

In the Specification:

On page 1, after the title, please insert the following paragraph:

--**Priority Claim**

This is a § 371 U.S. national stage of PCT/US00/24308, filed August 31, 2000, which was published in English under PCT Article 21(2), and claims the benefit of U.S. Application No. 60/153,100, filed September 9, 1999.--

The paragraph beginning at page 2, line 8 has been amended as follows:

In one such system, X-rays with energies of up to 2MeV were produced from ultra-short pulse driven laser-produced-plasma (LPP). This system utilized an ultra-short pulse laser (0.5 TW, 125 femtosecond, 60 mJ Ti:sapphire laser) focused onto a solid Ta target. First, a low intensity, long duration pre-pulse was used to create a low density plasma in front of the target. Then the main laser pulse was focused to an intensity of $> 10^{18}$ [__] **W/cm^2** onto the target. The main laser pulse accelerated the electrons in the plasma to MeV energies, and Bremsstrahlung X-rays were produced as the result of the electron collision with the target material. The majority of the flux was estimated to be 20 – 150 keV. This is in the range suitable for diagnostic medical imaging. Both the duration of the LPP X-ray source (< 1ps) and its size (< 60 um) are much less than conventional X-ray sources and will allow smaller features to be imaged and different imaging modalities to be employed. These LPP X-ray sources can be optimized at photon energies yielding maximum contrast between normal tissue and cancerous tissue, producing better than 100 micron resolution.

Please insert the following abstract (which is also submitted on a separate page) on new page 20 of the specification:

--TIME-GATED IMAGING WITH A SPLIT-BEAM SOURCE

Abstract

An imaging apparatus includes an electromagnetic pulse source, a beam splitter, an X-ray source, and a time gate. The electromagnetic pulse source generates pulses. The beam splitter splits a pulse into a first portion and a second portion. The X-ray source generates a beam in response to the first pulse portion, the beam directed toward an object for generating an object image. The time gate captures an object image in response to the second pulse portion. A related method apart from the apparatus performs the above steps.--

In the Claims:

Claim 3 has been amended as follows:

3. (Amended) The apparatus of claim **[3]** **2** wherein the laser produces a pulse having a width of about 10 – 30 femtoseconds and an energy of at least 125 – 250 mJ at a rate of about 100 – 250 pulses per second.